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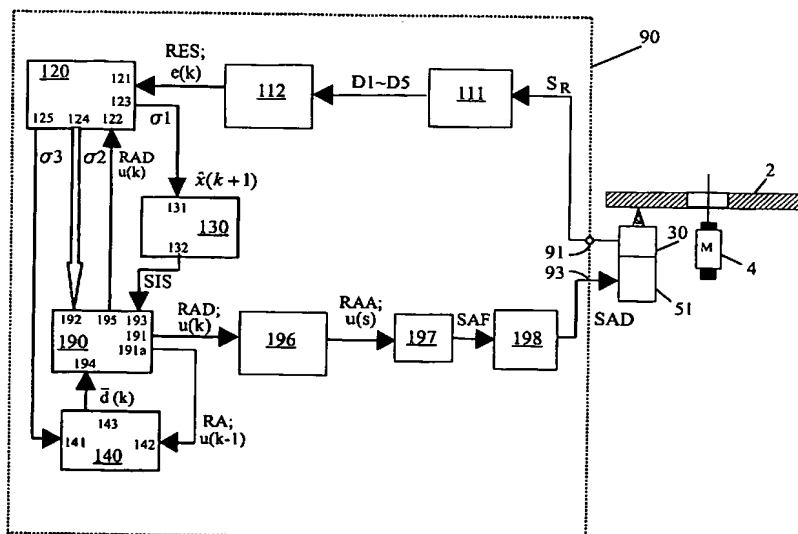
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[Continued on next page]

(54) Title: DISC DRIVE WITH IMPROVED RESISTANCE AGAINST MECHANICAL SHOCKS



(57) Abstract: A disc drive apparatus (1) comprises; a) actuator means (50) for controlling the positioning of an element (34) of a scanning means; b) error signal calculating means (111, 112) for receiving a read signal ( $S_R$ ) and generating at least one error ( $RES; e(k)$ ); c) a state estimator (120) for receiving said error and for outputting derived signals ( $s_1, s_2, s_3$ ); d) shock detector means (130) for generating a shock indication signal ( $SIS$ ); e) actuator control signal generator means (190) designed to perform sliding mode control (SMC), having at least one variable control parameter, for generating an actuator control signal ( $RAD; u(k)$ ) on the basis of a second one ( $s_2$ ) of said derived signals; f) the actuator control signal generator means setting a first value for said variable control parameter during normal operation, and setting a second value for said variable control parameter when said shock indication signal indicates the occurrence of a shock.



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